

Claims

1. A surgical instrument, comprising:
    - an elongate implement portion responsive to a firing motion and a closure motion;
    - a firing mechanism operably configured to produce the firing motion between an unfired position and a fully fired position;
  - 5 a closing mechanism operably configured to close and to open the implement portion;
    - and
    - a closing release mechanism operably configured to lock the closing mechanism when the implement portion is in the fully closed position, and responsive to an operator command to unlock the closing mechanism only when the firing mechanism is in
  - 10 an unfired position.
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2. The surgical instrument of claim 1, wherein said end effector comprises:
    - an elongate channel connected to said shaft;
    - an anvil pivotally coupled to said elongate channel for clamping tissue; and
    - a staple cartridge received in said elongate channel;
  - 5 wherein said firing member distally terminates in a firing bar operably configured to actuate said staple cartridge to form staples in the clamped tissue.
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3. The surgical instrument of claim 1, further comprising a firing mechanism operably configured to transfer sequential firing strokes as a distal longitudinal movement into said firing member.
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4. The surgical instrument of claim 1, wherein said firing mechanism comprises a means for traction biased coupling of multiple firing trigger actuations by an operator.
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5. The surgical instrument of claim 1, wherein said firing mechanism comprises a means for linked rack coupling of firing trigger actuations by an operator to said firing member.
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6. The surgical instrument of claim 5, wherein said firing mechanism further comprises a means for traction biased coupling of multiple firing trigger actuations by an operator.

7. A surgical instrument, comprising:
  - an elongate implement portion responsive to a firing motion and a closure motion;
  - and
  - a handle portion connected to the elongate implement portion, comprising:
    - 5 a firing mechanism operably configured to produce the firing motion between an unfired position and a fully fired position,
    - an indicator member including a lockout surface, the indicator member responsive to the firing mechanism being in the unfired position to position the lockout surface in an unlocked position,
- 10 a closure trigger operably configured to produce the closure motion, moveable between an open position and a closed position, and lockable at the closed position, and
- an unlocking control moveable from an unactuated to an actuated position to unlock the closure trigger when the lockout surface of the indicator member is in the unlocked position.
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8. The surgical instrument of claim 7, wherein the handle further comprises a housing, the unlocking control comprises a locking arm coupled to an exposed actuator, the closure trigger pivotally coupled to the housing and including an exposed actuator, the closure trigger pivotally coupled to the housing and including an upper portion engageable to the locking arm to lock the closure trigger in a closed position.
9. The surgical instrument of claim 8, wherein the indicator member comprises a wheel presenting a discontinuous circular locking surface to the locking arm of the unlocking control.

10. A surgical instrument, comprising:
  - an elongate implement portion responsive to a firing motion and a closure motion;
  - a firing mechanism operably configured to produce the firing motion between an unfired position and a fully fired position;
- 5 a closing mechanism operably configured to close and to open the implement portion;
  - and
- a closing release means to clamp the implement portion is in the fully closed position, and responsive to an operator command to unlock the closing mechanism only when the firing mechanism is in an unfired position.